

Int'l Appl. No. : PCT/EP2004/014151
Int'l Filing Date : December 13, 2004

AMENDMENTS TO THE SPECIFICATION

Please delete the header DESCRIPTION on line 1 of page 1 of the English translation of the Specification, and insert the following:

Cross-Reference to Related Applications

This Application is a US National Phase of the International Application No. PCT/EP2004/0141151 filed December 13, 2004 designating the US and published in German on July 14, 2005 as WO 2005/063148, which claims priority of German Patent Application No. 103 60 390.5, filed December 22, 2003.

Please add the following headers immediately after line 2 on page 1 of the English translation of the Specification:

BACKGROUND OF THE INVENTION

Field of the Invention

Please revise lines 3-4 on page 1 of the English translation of the specification to read as follows:

The invention relates to a joint socket for a hip endoprosthesis ~~according to the preamble of claim 1.~~

Please add the following header immediately after line 4 on page 1 of the English translation of the Specification:

Description of the Related Art

Please add the following header immediately before line 1 on page 2 of the English translation of the Specification:

SUMMARY OF THE INVENTION

Please revise the paragraph on lines 1-3 on page 2 of the English translation of the Specification as follows:

The problem underlying the invention is to provide a joint socket for a hip endoprosthesis which allows the socket insert to be freely oriented in relation to the socket shell with high precision ~~and nicety.~~

Please revise the paragraphs on lines 4-6 on page 2 of the English translation of the Specification as follows:

~~The problem is solved in~~ In accordance with one embodiment, ~~the invention by a joint socket for a hip endoprosthesis is provided having the features of claim 1. The joint socket includes a socket shell that is implantable in the pelvic bone and a socket insert for providing a bearing for the joint head of a prosthesis stem. The socket insert has a spherical outer surface configured to sit in an accommodating space defined by the socket shell, such that said outer surface contacts an inner surface of the accommodating space along a line of contact that is concentric with respect to the axis of rotation of the accommodating space. The inner surface of the socket shell, which defines the accommodating space, narrows toward the pole of the accommodating space in such a manner that the radius of curvature in the region of contact between the socket insert and socket shell is always greater than a spherical radius of the outer surface of the socket insert. The socket insert is arranged so as to be clamped in a self-locking manner in the accommodating space.~~

~~Advantageous embodiments of the invention are given in the subordinate claims.~~

Please revise the paragraph starting on line 7 on page 2 of the English translation of the Specification as follows:

In accordance with one embodiment ~~the invention~~, the joint socket for a hip endoprosthesis has a socket shell and ~~has~~ a socket insert which, by virtue of its spherical outer surface, allows free rotation and tilting in the socket shell. The socket shell can therefore be implanted in accordance with the anatomy and structure of the pelvic bone, so that optimum conditions for ingrowth can be achieved. The socket insert can be so rotated in the socket shell and its axis of rotation can be so tilted in relation to the axis of rotation of the socket shell that the axis of rotation of the socket insert is aligned with the axis of the shaft neck of the prosthesis stem when the femur with the inserted prosthesis stem is arranged in the optimum orthopaedic position. The spherical outer surface of the socket insert is in contact with the inner surface of the accommodating space along a circumferential line which is concentrically arranged with respect to the axis of rotation of the accommodating space. That line contact makes it possible for the socket insert to be readily rotated and tilted in the accommodating space so that the socket insert can be optimally oriented in terms of its position. Once the socket insert has been oriented, slight pressure is sufficient to press the socket insert into the narrowing accommodating space, whereupon the socket insert becomes clamped in the accommodating space in self-retaining

manner. The self-retaining or self-locking clamping force brings about fixing of the socket insert in the socket shell with a high degree of stability; loading of the joint causes additional pressing of the socket insert into the socket shell so that fixing of the socket shell is additionally strengthened.

Please revise the paragraph starting on line 1 on page 3 of the English translation of the Specification as follows:

In the case of an implanted prosthesis, the shank neck of the prosthesis stem can, in unfavourable cases, make contact with the edge of the joint socket (so-called impingement). As a result thereof, the prosthesis stem exerts leverage on the joint socket. In the case of customary joint sockets, in which the socket insert is held in the socket shell with an interlocking fit, that leverage can result in the entire joint socket's being levered out from the pelvic bone or at least becoming loose in the pelvic bone. ~~Because, in~~ In accordance with one embodiment of the invention, the socket insert is merely pressed into the accommodating space of the socket shell, so that such leverage in an unfavourable case, as discussed above, merely causes loosening of the socket insert in the socket shell ~~in the case of the joint socket according to the invention~~. When the joint is subsequently subjected to normal loading, the socket insert is pressed back into the accommodating space of the socket shell and is again firmly clamped and fixed.

Please add the following header and paragraph immediately after line 26 on page 3 of the English translation of the Specification:

BRIEF DESCRIPTION OF THE DRAWINGS

Please revise the paragraphs beginning on line 27 of page 3 and ending on line 1 of page 4 of the English translation of the Specification, as follows:

These and other features, aspects and advantages of the present invention will now be described in connection with the preferred embodiments of the invention, in reference to the accompanying is explained in greater detail hereinbelow with reference to an exemplary embodiment shown in the drawings. The illustrated embodiments, however, are merely examples and are not intended to limit the invention. The drawings include the following 2 figures, in which:

Figure 1 is a schematic view of one embodiment of ~~shows~~ a total hip endoprosthesis, ~~and~~

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Figure 2 is a schematic an-axial cross-section through the joint socket of the that prosthesis in Figure 1.

Please add the following header immediately after line 1 on page 4 of the English translation of the Specification:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please delete the paragraphs on lines 1-17 on page 6 of the English translation of the Specification, as shown below:

List of reference numerals

10 — pelvic bone
12 — prosthesis stem
14 — shaft neck
16 — joint head
18 — socket shell
20 — socket insert
22 — structure
24 — accommodating space
26 — mid axis of socket shell
28 — inner surface
30 — base in pole region
32 — outer surface
34 — line of contact
36 — spherical bearing surface
38 — axis of rotation of socket insert
40 — femur

Please replace the header on line 1 of page 7 of the English translation of the Specification with the following:

WHAT IS CLAIMED IS:

Please add the following header immediately before the header on line 1 of page 8 of the English translation of the Specification:

JOINT SOCKET OF A HIP ENDOPROSTHESIS

Please revise the header on line 1 of page 8 of the English translation of the Specification, as follows:

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ABSTRACT OF THE DISCLOSURE

Please revise the paragraph on lines 2-7 on page 8 of the English translation of the Specification as follows:

A ~~The~~ joint socket of a hip endoprosthesis includes ~~consists of~~ a socket shell ~~(18)~~ implantable in the pelvic bone ~~(10)~~ and a socket insert ~~(20)~~ for providing a bearing for the joint head ~~(16)~~. The socket shell ~~(18)~~ has an accommodating space having a conical inner surface in which the spherical outer surface of the socket insert ~~(20)~~ is inserted. As a result, the socket insert ~~(20)~~ can be clamped in ~~self-retaining~~ a self-locking manner in any desired position of rotation and tilt in the accommodating space of the socket shell.

Please delete the following line immediately after line 7 on page 8 of the English translation of the Specification:

(Figure 1)